

T2K

Notice of Allowability

Application No.

10/740,483

Examiner

Ted Kim

Applicant(s)

MACFARLANE ET AL.

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/23/2005.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: applicant's claims of 11/23/2005 amend around the art of record.

For claims 1 and 8, the following italicized limitations are not taught in permissible combination with the rest of the claim limitations.

" 1. A gas turbine engine comprising: a primary reduction gearbox enclosing a plurality of reduction gearbox bearings therewithin; at least a high pressure shaft rotatably supported by a plurality of high pressure shaft bearings and having a compressor and a turbine mounted thereto; a gas generator portion defining a shaft bearing cavity therewithin, *the shaft bearing cavity containing at least the high pressure shaft bearings; and wherein the primary reduction gearbox and shaft bearing cavity are engaged in unrestricted oil flow communication and define a single oil cavity within which the reduction gearbox bearings and the high pressure shaft bearings are enclosed.*"

"8. A gas turbine engine comprising: a casing; a primary reduction gearbox having a plurality of reduction gearbox bearings and an accessory gearbox having a plurality of accessory gearbox bearings; at least a first shaft having a compressor and turbine mounted thereto, the first shaft being rotatably supported by at least two shaft bearings; *and wherein the reduction*

gearbox, the accessory gearbox and the shaft bearings are disposed in a single oil cavity within the casing, and wherein unrestricted oil flow is possible between the reduction gearbox bearings, the accessory gearbox bearings and said shaft bearings.”

What applicant means by “unrestricted” is excerpted from the specification and used as the basis for claim interpretation:

“The outer HP shaft 38, concentric with and disposed surrounding the inner LP shaft 36, is cantilevered at the rear of the engine from HP shaft bearings disposed forward of both the HP turbine 31 and the HP compressor 28, within a shaft bearing cavity 62 (indicated with a dashed line in FIG. 2). The shaft bearing cavity 62 preferably includes almost all of the LP and HP shaft bearings, with the exception of the rear LP shaft bearing 52. The shaft bearing cavity 62 opens into, and thus is in free (i.e. unrestricted) fluid flow communication with, both the reduction gearbox 14 and the accessory gearbox 16, thereby defining a large single oil cavity 60 (outlined in FIG. 2 by the large solid line 59) which will be described in greater detail below. The fluid communication between various portions of the single cavity is “unrestricted” in the sense that there is an absence of conduits or other restrictions requiring pressure to force the oil between such portions of the single cavity. Rather, engine attitude permitting, oil may simply flow under force of gravity alone within the various portions of the cavity. Any narrowed portions of the cavity are preferably sized relative to the oil viscosity, etc., so that “spent” oil may pass to the oil-collection portion of the cavity independent of a separate pumping means, as will be described in more detail below. (see paragraph 14 of page 4 of the specification)”

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are

571-273-8300 for Regular faxes and 571-273-8300 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



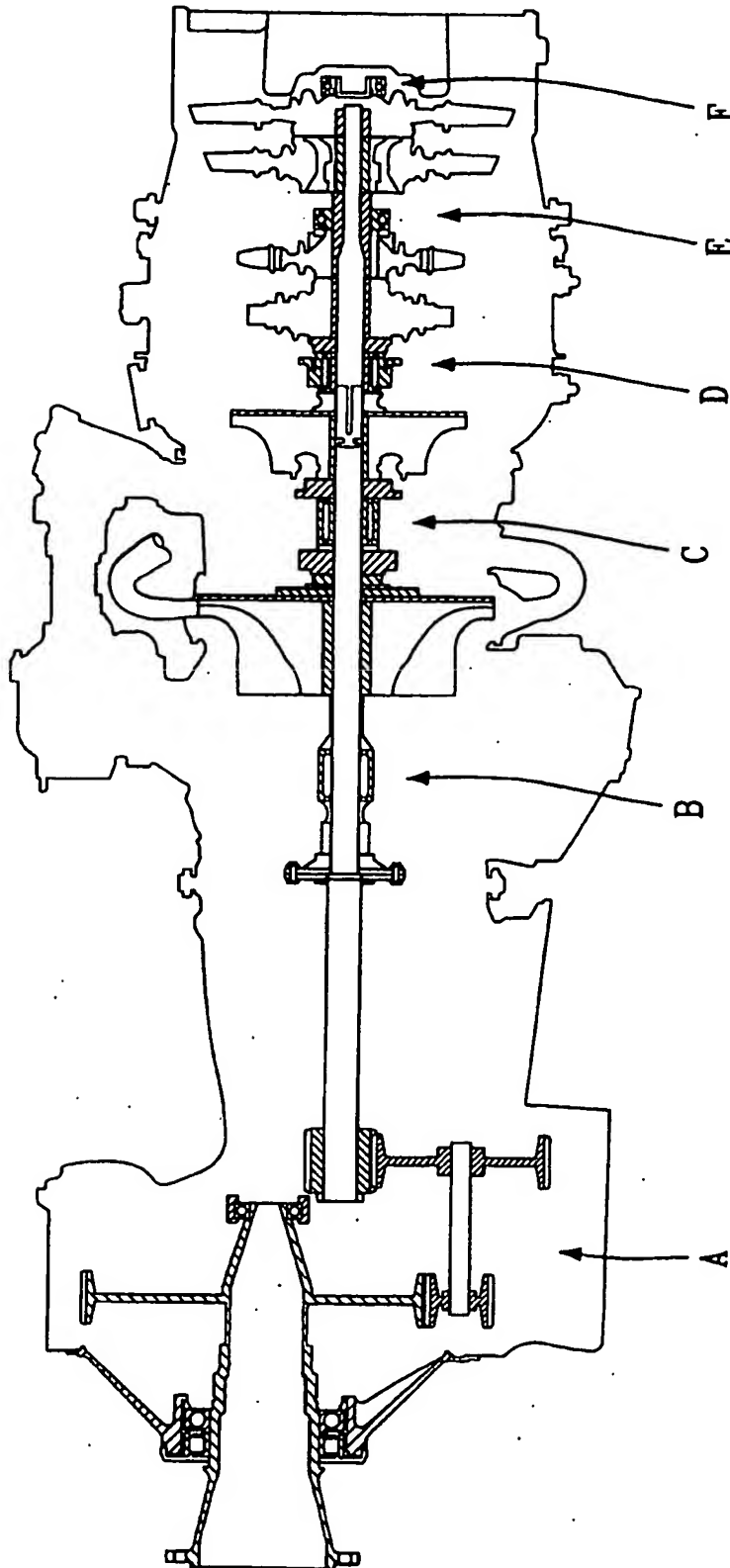
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January 6, 2006	Fax (After Final)	571-273-8300
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Patents Assistance Center	Telephone	800-786-9199



Replacement Sheet

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Entry Approved
JAC
1/6/06
fig. 1 (PRIOR ART)